

Title (en)  
PUMP ASSEMBLY AND RELATED COMPONENTS

Title (de)  
PUMPENANORDNUNG UND ZUGEORDNETES ELEMENT

Title (fr)  
ASSEMBLAGE DE POMPE ET COMPOSANTS ASSOCIES

Publication  
**EP 1169550 A4 20031119 (EN)**

Application  
**EP 00916603 A 20000322**

Priority  

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- US 53233800 A 20000321
- US 53163100 A 20000321
- US 53235600 A 20000321

Abstract (en)  
[origin: WO0057056A2] A pump assembly and related components for pumping water, sewage or other pumped material from one location to another are disclosed. The pumping system includes a motor (534) coupled to a centrifugal pump and a separator defining a reservoir in fluid communication with an inlet of the centrifugal pump. A water liquid ring vacuum pump provides the required vacuum to prime the pump. A pump impeller (330) is provided for increasing the efficiency of the pump. The pump impeller (330) preferably includes a core member (360) having a back face (366), a front face (362), and a central bore (348) extending therebetween. A first blade (368) and a second blade (370) are fixed to the front face (362) of the core member (360). Each blade (368, 370) has a trailing portion terminating at a trailing edge and a leading portion terminating at a leading edge. The leading portion (384) of the first blade (368) preferably radially overlaps the trailing portion (390) of the second blade (370). The pump is preferably mounted to a trailer for transport.

IPC 1-7  
**F01D 1/02**; **F04D 29/24**; **F04D 29/22**

IPC 8 full level  
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Citation (search report)  

- [XY] US 4648796 A 19870310 - MAGHENZANI TERSILLO [IT]
- [XY] US 1763595 A 19300610 - PAATSCH FRANK H
- [XY] US 3771900 A 19731113 - BAEHR S
- [X] US 3035781 A 19620522 - LENNART WALLEN EMIL OLOF
- [YA] DE 573029 C 19330327 - JOSEF DIBUTSCH
- [XA] US 640345 A 19000102 - WILBERFORCE GEORGE ALFRED
- [XA] US 3272137 A 19660913 - MAITLEN JOHN J, et al
- [XA] US 4687412 A 19870818 - CHAMBERLAIN STEPHEN S [CA]
- [XA] GB 2181487 A 19870423 - TEBBY STEPHEN WALKER
- [A] US 4606704 A 19860819 - SLOAN ALBERT H [US]
- [A] GB 2303178 A 19970212 - SPP LTD [GB]
- [X] EP 0606154 A2 19940713 - FUJI ELECTRIC CO LTD [JP]
- [XY] WO 9301396 A1 19930121 - POLAR VAC INTERNATIONAL INC [AU], et al
- [Y] DE 694694 C 19400806 - SULZER AG
- [A] US 2306988 A 19421229 - ADAMS HAROLD E
- [X] WO 9816403 A1 19980423 - BARABINO ALPHONSO [FR], et al
- [XY] FR 2748526 A1 19971114 - BOSCH GMBH ROBERT [DE]
- [XY] DE 3040160 A1 19820603 - VOLKSWAGENWERK AG [DE]
- [XY] US 3394772 A 19680730 - KASPAR ABOLD
- [X] FR 1468696 A 19670210
- [Y] W. H. FARAGALLAH: "Liquid ring vacuum pumps and compressors", 1985, BELTZ OFFSETDRUCK, 6944 HEMSBAACH/BERGSTRASSE, XP002253992
- [Y] NEYRTEC - ALSTHOM ATLANTIQUE: "Hydro Vakuumpumpen und -verdichter der Reihen NS-CNS", July 1979, S.A. IMP. BOISSY & COLOMB, GRENOBLE, XP002253993
- See references of WO 0057056A2

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